

## Elemental Analysis Service



Please send completed form and samples to:

Stephen Boyer  
School of Human Sciences  
Science Centre  
London Metropolitan University  
29 Hornsey Road  
London N7 7DD

Telephone: 020 7133 3605

Fax: 020 7133 2577

Email: [s.boyer@londonmet.ac.uk](mailto:s.boyer@londonmet.ac.uk)

Sample submitted by: Malcolm Halcrow
Address: School of Chemistry, University of Leeds, Leeds LS2 9JT
Telephone: 0113 343 6506 Email: <a href="mailto:m.a.halcrow@leeds.ac.uk">m.a.halcrow@leeds.ac.uk</a>
Date Submitted:

Please submit ca. 5 mg of sample.

Sample Reference No.: TR10
Name of Compound: Bis[2,6-di(5-methylpyrazol-3-yl)pyridine]iron(II) ditetrafluoroborate dihydrate
Molecular Formula: $C_{26}H_{26}B_2FeN_{10} \cdot 2H_2O$
Stability: Stable under ambient conditions.
Hazards: No specific hazards, but potentially harmful by ingestion.
Other Remarks:

Element	Expected %	Found (1)	Found (2)	
Carbon	42.0	41.87	41.94	
Hydrogen	4.06	3.83	3.86	
Nitrogen	18.8	18.61	18.69	

Authorising Signature:

Date Completed: 15/11/16 Signature:
Comments:



Request Form

Name. <u>Malcolm Mahan</u>	Account No. <u>Re. chem 494523</u>
Sample ref. <u>TR12Cu</u>	Supervisor. <u>MAH</u>
Department. <u>Wong &amp; Mahan</u>	Signature. <u>[Signature]</u>
Room No. <u>1.29</u> Tel. <u>36506</u>	Date. <u>17/09/15</u>
e-mail. <u>Mahalan@leeds</u>	(Please fill in fully & in BLOCK CAPITALS, failure could result in delay)

<p><b>Properties &amp; Hazards</b></p> <table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> <td>Unknown</td> </tr> <tr> <td>Non Hazardous</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Toxic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Carcinogenic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Explosive</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Air Sensitive</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Hygroscopic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Light Sensitive</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Volatile</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Electrostatic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Strong odour</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>Other. ....</p> <p>M/pt. / B/pt. .... °C</p> <p>Solid <input type="checkbox"/> , Liquid <input type="checkbox"/></p> <p>Type of compound -</p>		YES	NO	Unknown	Non Hazardous	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Toxic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Carcinogenic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Explosive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Air Sensitive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hygroscopic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Light Sensitive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Volatile	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Electrostatic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strong odour	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p><b>Structure &amp; Empirical Formula</b></p> <div style="text-align: center;"> </div> <p>Formula. <u>C<sub>26</sub>H<sub>26</sub>CuN<sub>2</sub>OBrF<sub>6</sub></u></p>
	YES	NO	Unknown																																										
Non Hazardous	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																										
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Strong odour	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																										

Is there POSSIBILITY for the presence of FLUORINE? YES ☒ / NO ☐

Analysis Required	Theoretical (%)	Found (%)
Carbon <input checked="" type="checkbox"/>	<u>43.6</u>	<u>41.70</u>
Hydrogen <input checked="" type="checkbox"/>	<u>3.66</u>	<u>4.00</u>
Nitrogen <input checked="" type="checkbox"/>	<u>19.6</u>	<u>18.70</u>
Sulphur <input type="checkbox"/>	.....	.....
Halogen <input type="checkbox"/>	.....	.....
Other #1 <input type="checkbox"/>	.....	.....
Other #2 <input type="checkbox"/>	.....	.....
Other #3 <input type="checkbox"/>	.....	.....

Micro ID: 595/2015 ; Signature: 23. 9.2015. T.A-C (Office use only)



# Request Form

Name. <u>Malcolm Halswood</u>	Account No. <u>RC chem. 464523</u>
Sample ref. <u>TRCO Zn</u>	Supervisor. <u>MAH</u>
Department. <u>LCM</u>	Signature. <u>[Signature]</u>
Room No. <u>1-26</u> Tel. <u>36506</u>	Date. <u>08/01/15</u>
e-mail. <u>Ma.halswood@leeds</u>	(Please fill in fully & in BLOCK CAPITALS, failure could result in delay)

<h2>Properties &amp; Hazards</h2> <table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> <td>Unknown</td> </tr> <tr> <td>Non Hazardous</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Toxic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Carcinogenic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Explosive</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Air Sensitive</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Hygroscopic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Light Sensitive</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Volatile</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Electrostatic</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Strong odour</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>Other. ....</p> <p>M/pt. / B/pt. .... °C</p> <p>Solid <input type="checkbox"/> , Liquid <input type="checkbox"/></p> <p>Type of compound -</p>		YES	NO	Unknown	Non Hazardous	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Toxic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Carcinogenic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Explosive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Air Sensitive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hygroscopic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Light Sensitive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Volatile	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Electrostatic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strong odour	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<h2>Structure &amp; Empirical Formula</h2> <div style="text-align: center;"> </div> <p>Formula. <u>C<sub>26</sub>H<sub>26</sub>N<sub>10</sub>ZnBrF<sub>8</sub>-2H<sub>2</sub>O</u></p>
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Is there POSSIBILITY for the presence of FLUORINE? YES ☒ / NO ☐

Analysis Required	Theoretical (%)	Found (%)
Carbon <input checked="" type="checkbox"/>	<u>41.4</u>	<u>41.65</u>
Hydrogen <input checked="" type="checkbox"/>	<u>4.01</u>	<u>3.90</u>
Nitrogen <input checked="" type="checkbox"/>	<u>18.6</u>	<u>18.70</u>
Sulphur <input type="checkbox"/>		
Halogen <input type="checkbox"/>		
Other #1 <input type="checkbox"/>		
Other #2 <input type="checkbox"/>		
Other #3 <input type="checkbox"/>		

Micro ID: 640/2015 ; Signature: 12.10.2015. T.H.C (Office use only)

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Email: [s.boyer@londonmet.ac.uk](mailto:s.boyer@londonmet.ac.uk)

Sample submitted by: Malcolm Halcrow
Address: School of Chemistry, University of Leeds, Leeds LS2 9JT
Telephone: 0113 343 6506 Email: <a href="mailto:m.a.halcrow@leeds.ac.uk">m.a.halcrow@leeds.ac.uk</a>
Date Submitted:

Please submit ca. 5 mg of sample.

Sample Reference No.: TR10Fe,Cu
Name of Compound: Bis[2,6-di(5-methylpyrazol-3-yl)pyridine]iron(II) ditetrafluoroborate dihydrate doped with <i>ca.</i> 3 mol % copper(II)
Molecular Formula: $C_{26}H_{26}B_2Cu_{0.03}Fe_{0.97}N_{10} \cdot 2H_2O$
Stability: Stable under ambient conditions.
Hazards: No specific hazards, but potentially harmful by ingestion.
Other Remarks: Same compound as TR10, but doped with copper

Element	Expected %	Found (1)	Found (2)	
Carbon	42.0	42.03	42.09	
Hydrogen	4.06	3.87	3.95	
Nitrogen	18.8	18.63	18.67	

Authorising Signature:

Date Completed: 15/11/16 Signature:
Comments: